

## CLAIMS

1. A display arrangement comprising:

a display comprising a plurality of pixels each of which is arranged to produce  
5 a respective output;

at least a first light sensor for measuring the output of a first one of the  
plurality of pixels; and

compensation means for receiving, from the first sensor, a first input indicative  
of a measured output of the first pixel and a second input indicative of a  
10 required output of the first pixel and for compensating an output control signal  
provided to the first pixel such that the output of the first pixel is substantially  
equal to the required output.

2. A display arrangement as claimed in claim 1, comprising a feedback loop  
15 including the compensation means, the first sensor for providing the first input  
to the compensation means, the first pixel for providing the second input to  
the compensation means, and a driver for receiving an input from the  
compensation means and for providing the output control signal to the first  
pixel.

3. A display arrangement as claimed in claim 1, wherein the display  
comprises a plurality of pixels including at least a first multiplicity of pixels of a  
first type including the first pixel and a second multiplicity of pixels of a second  
type, and further comprising:

25 at least a second light sensor for measuring the output of a first one of the  
plurality of pixels of the second type; and

compensation means for receiving, from the second sensor, a first input  
indicative of a measured output of the first pixel of the second type and a  
second input indicative of a required output of the first pixel of the second type  
30 and for compensating an output control signal provided to the first pixel of the  
second type such that the output of the first pixel of the second type is  
substantially equal to the required output.

4. A display arrangement as claimed in claim 1, wherein the display comprises a plurality of pixels including at least a first multiplicity of pixels of a first type and a second multiplicity of pixels of a second type, and further comprising:

at least a first multiplicity of light sensors, wherein each of the first multiplicity of light sensors is associated with a pixel of the first type; and compensation means, for each pixel of the first type, for receiving from the light sensor associated with the respective pixel a first input indicative of a measured output of the respective pixel and a second input indicative of a required output of the respective pixel and for compensating an output control signal provided to the respective pixel such that the output of the respective pixel is substantially equal to the required output.

5. A display arrangement as claimed in claim 4, comprising a feedback loop for each of the first multiplicity of pixels, wherein each feedback loop includes compensation means, a light sensor and a pixel of the first type.

6. A display arrangement as claimed in claim 4, wherein the pixels of the first and second type comprise different photo-emissive materials.

7. A display arrangement as claimed in claim 4, wherein the pixels of the first type emit red or blue colored light.

8. A display arrangement as claimed in claim 1, wherein the first pixel has a variable efficiency.

9. A display arrangement as claimed in claim 8, wherein the efficiency decreases with use.

10. A display arrangement as claimed in claim 4, wherein pixels of the first type and the pixels of the second type have differently variable efficiencies.

11. A display arrangement as claimed in claim 10, wherein the differently variable efficiencies decrease at different rates with use.

5 12. A display arrangement as claimed in claim 4, wherein each of the multiplicity of pixels of the second type do not have associated light sensors.

13. A display arrangement as claimed in claim 1, further comprising:  
a plurality of light sensors, wherein each of the plurality of pixels is associated  
10 with a light sensor; and  
compensation means, for each pixel, for receiving from the light sensor associated with the respective pixel a first input indicative of a measured output of the respective pixel and a second input indicating a required output of the respective pixel and for compensating an output control signal provided  
15 to the respective pixel such that the output of the respective pixel is substantially equal to the required output.

14. A display arrangement as claimed in claim 1, wherein the compensated output control signal corresponds to an output control signal multiplied by the  
20 ratio of the required output of the first pixel to the output of the first pixel in response to the output control signal.

15. A display arrangement as claimed in claim 1, wherein the first light sensor measures the brightness output of the first pixel.  
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16. A display arrangement as claimed in claim 1 wherein the first light sensor is integrated into the display

17. A display arrangement as claimed in claim 16 wherein the first light sensor  
30 is positioned adjacent the first pixel.

18. A display arrangement as claimed in claim 17, wherein a light shield for the first light sensor is integrated in the display.

5 19. A display arrangement as claimed in claim 16 wherein the compensation means is integrated into the display.

20. A display arrangement as claimed in claim 1 wherein the display is an organic emissive display.

10 21. A display arrangement comprising:  
 a display comprising a plurality of pixels arranged to produce separate brightness outputs from separately received respective drive currents including a first pixel having an efficiency that varies with use; and  
 compensation means for receiving a first input indicative of the present  
 15 efficiency of the first pixel and a second input indicative of a required brightness output of the first pixel and for compensating the magnitude of a first drive current provided to the first pixel such that the brightness output of the first pixel is substantially equal to the required brightness output.

20 22. A display arrangement further comprising at least a first sensor for measuring the brightness output of the first pixel, wherein the first input indicative of the present efficiency of the first pixel is an input, from the first sensor, indicative of a contemporaneously measured brightness output of the first pixel.

25 23. A method of controlling the output of a display comprising:  
 providing an output control signal to a first pixel of the display;  
 measuring light output from the first pixel; and  
 compensating the output control signal provided to the first pixel to reduce the  
 30 difference between the measured light output of the first pixel and the expected light output of the first pixel.